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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,663	02/28/2002	Kenichiro Ohtsuka	50212-356	2507

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MCDERMOTT WILL & EMERY LLP  
600 13TH STREET, N.W.  
WASHINGTON, DC 20005-3096

EXAMINER

DOAN, JENNIFER

ART UNIT PAPER NUMBER

2874

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/084,663	<b>Applicant(s)</b> OHTSUKA ET AL.	
	<b>Examiner</b> Jennifer Doan	<b>Art Unit</b> 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2004.  
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-16 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 18 June 2002 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>121604</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Request for Continued Examination***

1. The request filed on December 16, 2004 for a Request for Continued Examination (RCE) is acceptable and a RCE has been established. An action on the RCE follows.

### ***Information Disclosure Statement***

2. The prior art documents submitted by applicant in the Information Disclosure Statement filed on 12/16/2004, have all been considered and made of record (note the attached copy of form PTO-1449).

### ***Drawings***

3. The drawings, filed on 06/18/2002, are accepted.

### ***Specification***

4. Applicants' cooperation is requested in correcting any errors of which applicants may become aware in the specification.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-5 and 7-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroshi et al. (J.P. 2001-004862).

With respect to claims 1, 2, 11 and 12, Hiroshi et al. (figures 1-3) disclose a method and an apparatus of a connector ferrule (1A) for an optical connector with a pair of guide holes (11) for guide pin insertion and one or a plurality of optical fiber (2) positioning holes extending inwardly from the connection end surface, wherein the connector involves a filler (15) (paragraph [0017]) and having a chamfer (12) provided

at the opening edge portion of the guide holes (11) on the connection end surface side thereof (paragraph [0006], lines 1-2).

Hiroshi et al. do not specifically disclose a filler with an average particle size of no more than 40  $\mu\text{m}$  and a maximum particle size of the filler is no more than 20  $\mu\text{m}$ .

However, the average particle size and a maximum particle size of the filler are considered to be obvious, since the protection for an optical fiber would be dependent on the particle size of the filler. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the particle size to modify the device of Hiroshi et al. with the values as claimed for the purpose of obtaining a good protection for an optical fiber, and it also has been held that discovering an optimum value of a result effective variable involves only routine skill in the art and it is noted that the applicant does not disclose criticality in the value claimed. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (see MPEP § 2144.05).

With respect to claims 3 and 13, Hiroshi et al. substantially disclose all the limitations of the claimed invention except the surface roughness of the chamfer is 0.01 to 2.0  $\mu\text{m}$ .

However, the surface roughness of the chamfer being 0.01 to 2.0  $\mu\text{m}$  is considered to be obvious, since the fiber inserting and holding would be dependent on the surface roughness. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the surface of the chamfer of Hiroshi's device within the range as claimed for the purpose of reducing the insertion

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loss, and it also has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art and it is noted that the applicant does not disclose criticality in the ranges claimed. *In re Aller*, 105 USPQ 233 (see MPEP § 2144.05).

With respect to claims 4 and 14, Hiroshi et al. (paragraph [0019], lines 1-5) disclose the connector ferrule, wherein the opening diameter of the guide hole at the connection end surface is formed to be larger by 0.3 to 0.8 mm than the diameter of the guide hole inside the connection ferrule.

With respect to claim 5, Hiroshi et al. substantially disclose all the limitations of the claimed invention except the chamfering angle of the chamfer is 90 to 150 degrees.

However, the chamfering angle of the chamfer being 90 to 150 degrees is considered to be obvious. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the angle of the chamfer of Hiroshi's device within the range as claimed for the purpose of making the fiber connection more easier and stable, and it also has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art and it is noted that the applicant does not disclose criticality in the ranges claimed. *In re Aller*, 105 USPQ 233 (see MPEP § 2144.05).

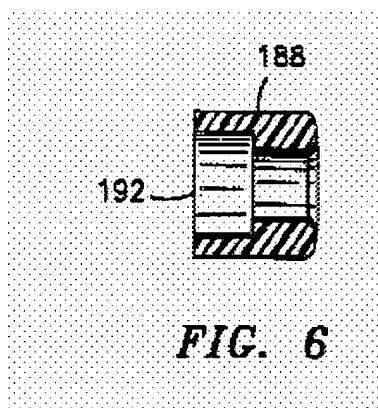
With respect to claims 7 and 15, Hiroshi et al. (claim 7) disclose the connection ferrule, wherein the filler is silica.

With respect to claims 8-10 and 16, Hiroshi et al. (figure 1) disclose an optical connector having a connector ferrule (1A); an optical fiber (2) insert and secured inside the optical fiber positioning hole of the ferrule (1A) and a pair of guide pins (3) provided with a curved portion, that has been rounded at the end (see figure 1). Also, Hiroshi et al. (figure 1 and paragraph [0021]) disclose the optical connector, wherein the guide pin (3) is inserted and fixed in the guide hole (11) in a state in which the tip of that protrudes from the connection end surface by a prescribed length; further the length from the base of the curved portion of the guide pin (3) is no less than 0.1 mm and no more than half of the diameter of the guide pin (11).

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroshi et al. (as cited above) in view of Stein (U.S. Patent 5,557,696).

With respect to claim 6, Hiroshi et al. substantially disclose all the limitations of the claimed invention except Hiroshi et al. do not disclose the guide hole including a first hole portion with a constant diameter connected to the chamfer and extending inside the connector ferrule and a second hole portion connected to the first hole portion, extending to the end surface side opposite to the connection end surface and having a diameter larger than that of the first hole portion.

However, Stein (figure 6) explicitly discloses a connector ferrule having the guide hole including a first hole portion with a constant diameter connected to the chamfer and extending inside the connector ferrule and a second hole portion connected to the first hole portion, extending to the end surface side opposite to the connection end surface and having a diameter larger than that of the first hole portion. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Hiroshi's device with the above features (accordance with the teaching of Stein) for the purpose of obtaining a better connector ferrule with low signal transmission loss and insertion loss.



### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Doan whose telephone number is (571) 272-



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2346. The examiner can normally be reached on Monday to Thursday from 6:00 am to 3:30 pm, second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer Doan

Patent examiner

March 10, 2005